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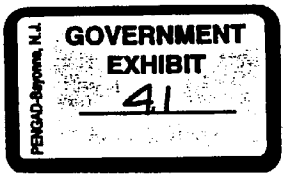
From: Bill Gates
Sent: Sunday, May 19, 1996 5:32 PM
To: Paul Maritz; Brad Silverberg; Jim Allchin (Exchange); Brad Chase; Rich Tong; John Ludwig
Cc: Steve Ballmer; Bob Herbold; Jeff Raikes; Bernard Vergnes; Joachim Kempin; Pete Higgins; Nathan Myhrvold; Aaron Contorer; Steven Sinofsky; Ben Slivka; Chris Jones
Subject: Some Thoughts on Netscape



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Netscape

This memo has some thoughts on Netscape. Nothing earthshaking but a worthwhile review of a number of key issues.

During this Thinkweek I had a chance to play with a number of Netscape products. This reinforced the impression that I think all of us share that Netscape is quite an impressive competitor. They are moving at full speed. Every day companies are barraged with the message that they need to be doing more about the Internet. Today that means embracing Netscape products and trusting that Netscape will fill in any holes that they have.

Netscape has been very clever about using third parties to help out with their product. For example Verity provides a nice search engine and sells more powerful versions while we are working to get a focus on a single search engine. We don't even have plans to be as rich as Verity is today.

Netscape has been very clever about using free Unix and University software to provide features. They provide RCS as their version control system. They were able to integrate LDAP by using University developed code. With Harvest they not only used the free code but they also hired the people who did the work to make sure they stay in the lead.

Netscape has done a good job of working with partners such as Cisco, Veriphone, GE and many others.

Paul just had the platform group go through a very well done 3 year plan. One exercise that would be helpful to me is to take our plans and lay them out next to Netscapes current products and whatever we know about their future plans. We have most of this information but it isn't brought together into one place at a high level on paper. Sometime in the next 2 months I would like Paul, Jim and Brad to present their view of this to the BOOP.

Looking at Enterprise Server (which IIS has to match and exceed) and looking at Proxy Server) its basically a year until we match all of what they have now. I think we need to look hard at whether we are being creative about using 3rd parties to fill these hole. We need to be crystal clear with the product groups that we have the budget to spend in these areas.

Its less clear to me how we compare to other Netscape products. The table below isn't definitive. I am sure others could fill this in better but we do need a table like this that our sales people understand.

Netscape product	Microsoft equivalent	Technical comparison	Their price/ours
Livewire Pro	Frontpage and Internet Studio (Davinci)	They are limited. We miss little except Informix server	$695/$149($99), ???
Fast Track Web server	Peer server for 95 & NT and IIS	Equivalent once we ship. IIS is more complex.	$295/free
Enterprise 2.0	IIS	They have richer admin options, and content management.	$995/free
Proxy	Proxy in IIS Pro???	Complex to summarize. We are behind in areas and ahead in some.	$995/???

Catalog	IIS or IIS Pro??? Office??	I don't understand our strategy.	$995/???
Mail	SAM & Exchange (&Normandy?)	Unclear.	$995/Per user fee!
News	Bundle with above?	Unclear.	$995/???
Merchant	Merchant	With Eshop we should get ahead.	Not published/???
Publishing	Internet studio? Normandy=IIS Net Op?	Unclear.	Not published/???
Community	Exchange? Normandy=IIS Net Op?	Unclear.	Not published/???
Navigator	Internet explorer	With IE 3 the fight begins. Both products have pluses. Cloning Livemedia is a big question for us.	$49 & free/free
Gold	Internet add on/Front Page	Nice integration for them. They need to edit tables.	$79/ free, $149 ($99)
Suite spot	IIS Pro???	We want an SKU that together with NT matches them. In planning.	$2995/ ???

Comparing ourselves to Netscape might cause us to rethink some of our product packaging. Netscape bundles authoring tools with some of their suites. We might need to include Front Page into one of our Internet server add-ons. I am very open minded to this. Netscape has a database engine from Informix in their LivewirePro offering and we should probably include the same form of SQL we plan to put in with Developer Office at least with Internet studio and perhaps with Frontpage.

Our main pricing problem versus Netscape is that we want to get per user fees for mail and file sharing. As the Web and file sharing get unified we could end up with very little server revenue if we aren't careful. We will have to tier our product line where the low end does not have user fees and the high end does. Netscape will have a price advantage for a number of these scenarios unless we want to be ultra-aggressive. This deserves discussion.

Enterprise Server 2.0

I played around with this product for about an hour. I was impressed with the rich administration capabilities such as their style feature. I was impressed with the depth of the product including encryption and content management. They create a second HTTP server for the administration which is clever. They have lots of items that connect you back to them for updates or support or information on more products.

A lot of the stuff on the WEB is already getting fairly complex. For example in their "programs" section that distinguish between JAVA, CGI, WinCGI and ShellCGI. It seems weird that setting up and controlling programs should be separated by program type. We will have to think carefully about whether to duplicate this ugliness or just provide a clean single way of doing this or in some cases presenting both interfaces.

The whole way that the URL name space is subject to remapping and filtering seems quite complex to me. If someone told me that a specific URL was not working right I would have to go through a lot of steps to track down what is going on. You almost need a debugger to show you all of the things taking place. The more names spaces there are the crazier this gets because each of them has all of these mapping complexities. Once a URL is resolved to a file name then there are still complex things that happen with filenames. Ideally we would bring all of this name mapping stuff together. Except for the pricing confusion

it might create, integration of file system and HTTP/URL plays to our strength. I think there is more we can do here including allowing seek protocols to arbitrary URLs.

Their user interface is all done by running a browser and interacting with HTML pages. Despite the richness and integration they provide the user interface is absolutely horrible. It is the most opaque weird interface I have seen for over 5 years and it comes from using HTML. Until great Active controls become part of HTML an HTML user interface cannot compete with Windows dialogs and menus. Even then I am not sure how competitive it will be. Their interface forces you to go one place to set things and another place to see things. Most of the settings which should be done from a pick list or through browsing are done blindly by having to type in a string.

IIS is in an interesting position. We have to accommodate 3 kinds of users - 1. Users who are using the NT server for multiple things. We are very strong for this user. 2. A user who would buy Fasttrack and just do simple things to set up a dedicated server. 3. A user who needs the richness of Enterprise server but wants a UI which doesn't force him to get into a lot of NT utilities that have a lot of non-HTTP elements. I think we will end up with a special user interface that is focused on users who just want an HTTP server. For example I think this interface should provide another "entry" point for browsing and setting up users. I think this interface should use the same terminology that Netscape does as long as we are careful not to violate any copyrights of theirs.

Browser war

If we continue to have minimal share in browsers a lot of our other efforts will be futile. By the end of the year we have to get to more than 25% share so we are taken seriously. For now I think our public posture should be to avoid any predictions except to say we are doing some great work. This war doesn't really start until we ship IE 3.0 although there is a lot we are doing to get ready for that. I am very excited that we plan to hold OPK 2 for IE 3.0 if at all possible. I am very excited we are going to incent OEMs to focus their efforts around IE.

I think outside the United States we can catch the browser war at an earlier stage which is a lot easier.

I consider here the areas we have to catch up and move ahead in:

Distribution: Browsers are somewhat over distributed since people can get them on the WEB, with their machine, through a retail package, bundled with another retail package, in the mail/magazines, from a content provider and through their online/ISP provider. Over time we see browsers becoming a built in feature of the operating system but we have decided to get involved with every one of these distribution channels. Netscape has a huge advantage on the WEB today. I don't know if there is a crawler which will show all the links back to a particular page. We should find out that can enumerate all the links to the Netscape download page. I tried to get a rough feel for this by using the advanced query mode of Alta Vista to find phrases like Netscape enhanced.

Technology: We should be able to be smaller by sharing with the operating system. We are certainly more componentized although Netscape has realized they have a problem there. Speed is the most visible differentiator. Caching cleverness is a critical element here. I think extending HTTP is very important even though at first only IIS will issue the new protocol. I think the idea of a predefined dictionary of elements that I discussed in a piece of mail has promise. I still think metafiles have immense promise as the CPU sits idle while it is waiting for more bits to come across the line. I was surprised to hear we are now slower than Netscape for a lot of things. I would love to see a memo listing the areas of technology we think have promise. I agree with Ballmer that offline viewing is a big thing. I think having a browser hold user properties like zip code, preferred language (like English), ratings filter etc.. will become very important but it is trivial to implement and requires a common standard. I am still a very big fan of us putting the

source code of the key parts of IE out on the Web (without commercial reproduction rights) so that Universities who want to "extend" browsers use ours for their experiments. I think it will generate good will. I see almost no downside although engineering groups are overly conservative about this because they worry about compatibility issues. I also think this will raise the probability of getting some good ideas for improvement from outside the company.

Integration: Our integration plans are great and in the Nashville timeframe there is nothing more we can do. Today we are integrating the browsing code without integrating the name space. The file name space is different from the URL name space which as I mentioned above I think should be changed. I am also concerned about our integration with HELP. If all of our HELP requires our browser including following links out onto the WEB it means that a typical user will be working with our browser as a default. I think the learning from HELP can guide us in where the browser should go. I don't know how much of the HELP is moved to HTML for which versions of IE but I think it is critical to the integration message. We are unclear today about what part of a user interface can be done through the browser. Once we get to IE 4 will most dialogs be as good done with HTML as they are today with the Windows dialog manager? If this is not a goal then I need to understand this better. I see us merging User and the browser altogether over time.

Money: There are lots of ways to spend money. First you can pay people directly to use the browser. This is too blunt an instrument. Second you can give them "Internet money" to spend for using the browser. This is a better idea than it sounds at first. Its really like getting a bunch of discount coupons to send along with the browser. Some of them we would have to really pay people to offer. Helping to bootstrap people spending money for subscriptions on the Web is probably a good thing. Third you can have contests they win for using the browser. These are the direct techniques. Fourth you can spend money to advertise the browser so that content providers are giving you visibility. Clearly we need to do a lot of this. Fifth you can pay content providers to do unique things to exploit your browser. Part of this may involve running ads for the content providers. This may only be achievable for the top 100 sites. Other clever approaches may be necessary to get the broad number of sites. Sixth you can spend money on distribution including massive airdrops. If we can highlight some reasons for people to move over to IE 3 I think airdrops are a good idea for the first 4 wazzu months.

Gravity

Given the positive spiral that Netscape is experiencing what could possibly slow them down? I list a number of issues some of which we can influence.

The browser is trying to do all things for all people. The overall size and the overlap of the different add-ons should get people to realize that the Netscape browser is bigger than a productivity application and growing faster than any application ever has. It should be confusing which add-ons are really integral to their product. It should be confusing which add-ons work on which platforms. The more addons they endorse the more then are invading the territory of other developers. I am still wondering how explicit their plans are to go all the way and become a full blown operating system with scheduling, printing, local storage management and drivers. If companies decide that a particular Netscape version is adequate and authors restrict their work to this level then it makes it easier to integrate into the operating system. I have heard different opinions about how much more fundamentally important innovation there is in HTML or other client side features. There is a big question of whether there will be a few well recognized "levels" of HTML including which add-ons are expected to run. This is important for the Internet terminal people who have finite memory to run the browser code and need to make sure that either ARM or processor independent but high quality addons are available. Given the goal of the JAVA runtime allowing applications to do everything they need I think it will grow dramatically from where it is today. We carry some baggage because of backwards compatability but they carry baggage because of the number of companies who are contributing runtimes pieces and addons.

It should be hard to grow so fast integrating all of the new people whether new hires of coming from acquisitions.

At some point financial minded analysts will begin to consider how much of a revenue stream Netscape will be able to generate. Assuming that clients generate less revenue for them in the future and that they don't win high volume of Intranet because we do our job well and that people don't buy many low end servers since its in the operating system and that the high end servers consolidate somewhat with outsourcing then the available revenue stream for them is quite limited especially with their pricing model.