
From: Bill Gates
Sent: Monday, November 08, 1999 5:31 PM
To: Charles Stevens; Jeff Raikes
Cc: Deborah Willingham; Richard Fade; Jim Allchin (Exchange); Rebecca Kaske
Subject: RE: SUN workstation sales

We can wait until December.

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

From: Charles Stevens
Sent: Monday, November 08, 1999 4:27 PM
To: Jeff Raikes
Cc: Deborah Willingham; Richard Fade; Bill Gates; Jim Allchin (Exchange); Rebecca Kaske
Subject: RE: SUN workstation sales

Yes, we always do this for the competitive review in December: the different market segments and key ISV shipment volumes. I'll see if we can get the data earlier. We have traction in some markets like automotive, there are some interesting new small ISVs that are going to leverage Win 2000 which will put more pressure on the large ISVs. The large ISVs have a lot of migration issues. 64-bit Win 2000 will be a big milestone to take advantage of.

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

From: Jeff Raikes
Sent: Sunday, November 07, 1999 10:16 AM
To: Charles Stevens
Cc: Deborah Willingham; Richard Fade; Bill Gates; Jim Allchin (Exchange)
Subject: RE: SUN workstation sales

Charles, can your guys easily put together a "workstation map" showing estimated volumes of Sun workstations to segments and key customers? Then a second chart that shows the leverage points in the high volume areas?

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

From: Bill Gates
Sent: Thursday, November 04, 1999 8:59 PM
To: Jim Allchin (Exchange)
Cc: Charles Stevens; Deborah Willingham; Jeff Raikes; Richard Fade
Subject: SUN workstation sales

The fact that Sun still sells as many workstations as they do bothers me too.

I wonder if it is because we haven't brought around the software vendors.

A lot of high end development is done on SUN workstations. People like CISCO.

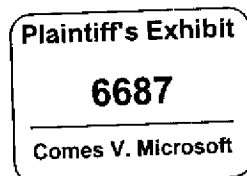
How big is ECAD and financial?

I wonder if it is key customers like NSA or other government buyers.

We do the workstation forum with Intel - at least we have the last 2 years. We got DELL and HP to focus on this space pretty heavily.

Any yet I guess SUNs volume hasn't dropped much. I guess their share of non-Windows

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workstations has gone up.

This is an area where Intel and Microsoft should be willing to put a lot into being the best.

I wonder if Windows2000 will allow us to see an uptick here.

Its not clear to me what we could do better with our OEMs but if there is something we should do it.

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

From: Jim Allchin (Exchange)
Sent: Thursday, November 04, 1999 6:18 PM
To: Bill Gates; Eric Rudder
Cc: Nathan Myhrvold; David Vaskevitch
Subject: RE: SUN as a competitor

Very good thoughts.

1. I do think we have done a bad job internally and with our OEMs in focusing on their workstation business. I can't remember the number now, but I was surprised that they were still as strong as they were. There is no reason for this – other than poor focus and poor marketing.

2. I think your point about XML vs. Java is quite good. The truth is that Java is yesterday's news. Java is weak for two reasons. First, it is a single language – you get no choice; no innovation. We have been saying that for some time. But, second, the programming model today that is hot is "model based programming" using XML, XSP, XSL, etc. is one we have communicated at all. This new level of programming offers incredible gains in programmer efficiency and device independence above what something like Java can do. If we can pull together the reach+richness implementation (which I am more hopeful about recently) then I think we could move into a thoughtleadership level in this area. This is yet to be seen, but I do see it may be possible.

3. Our quality has been used against us recently as you point out. It will take a lot of work to turn this around. However, I think with Windows 2000 we are in a really good position.

4. We absolutely need to get thought leadership on e-site. We need to make it clear that industry standard hardware will overrun them, but more importantly there is in addition another model that is even more powerful. Management is the key here.

5. I believe that SUN has used scale, reliability so far out of the abilities. I think that management will be next. Shame on us if we don't get moving here.

jim

Original Message-----

From: Bill Gates
Sent: Thursday, November 04, 1999 4:27 PM
To: Eric Rudder
Cc: Nathan Myhrvold; Jim Allchin (Exchange); David Vaskevitch
Subject: SUN as a competitor

I admit this is not the key memo from Think Week but its one I felt like writing.

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I will go back to working on the main memo – Microsoft 2000 now that I am sending this off.

I think someone could fill in some facts and do some editing and get something out to a broad group pretty easily. Lets pick one or two people to help fill this out. Maybe someone in Amar's group. Maybe someone like Charles or Tod. Nathan- you lived through this and if you get a chance we would love to include any comments or elaborations you want to add. Eric will help me edit them in. Jim and David – I copy you on this – feel free to comment or not. Certainly you will get this in its final form along with lots of others.

I don't want to spend too much more time on it but I think it is important.

We are a competitive company and understanding we can best this competitor who seems to have been besting us in the last few years I think is motivating. Also the focus on how we will do it I think is very important.

Start of memo:

SUN as a competitor

SUN has had many visions over the years.

The one that they like to harken to is the slogan "The Network is the Computer". This was Apollo's mantra before it was SUN but SUN just took it and ran with it. The truth is it's the software and the network that are the computer and we have a chance to show that in the year ahead.

Most interesting has been the SUN vision as it related to Personal Computers.

First they said that personal computers would never succeed and that they were toys. They said that personal computers were a bad development and all they did is waste people's time. They promoted expensive desktop machines as the solution. Second, When they saw the PC industry taking off they had a period where they decided they had to allow people to develop compatible machines – remember all the pronouncements about how SUN would have less than 20% of the SUN hardware market and the licensees they talked about – Tadpole, ... As soon as those licensees provided better prices SUN blocked them from having their latest software or using SUNs distribution channels and put most of them out of business. Third, SUN decided that the answer was to talk about the Network computer that would not run local applications. They ran ads with x , y and z talking about how great

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the network computers are. Go talk to x , y and z today. The model Sun proposed required people to give up the empowerment of the PC. As part of this SUN decided not to allow anyone to run productivity applications and decided to declare this visibly on "Independence day". The push back from inside SUN however prevented this top down approach and it changed into a top level edict banning use of Powerpoint. Fourth SUN decided to tell everyone that the path to glory would be to write or rewrite their applications all in the same computer language but make sure that SUN gets royalties whenever that language is used. It's just now that people are realizing that the key to interoperability is not whether two applications are written in the same language. That does nothing – the user sees no benefit or change based on the language used. Forcing the world to stop considering new languages and advances in languages as we move into XML data exchange is particularly ill-timed. In fact a lot of new languages will be visual in nature allowing a non-programmer to draw out the steps in a business process.

SUN's desktop volume was never very large compared to PC volumes. Their desktop volumes have actually gone down over the last few years. (#s) SUN is making all of its money on expensive servers. The fact that they have had huge servers and that we have no established Windows NT as having scale/reliability has done two things for SUN. First it has allowed them to sell their highest end servers at very high prices. Second it has allowed them to sell lots of servers where their price performance is much worse than the PC because of the reputation and the perceived head room. (some data about what % of their sales are servers we beat in performance)

SUN's natural competitor in the high end space should have been the other UNIX vendors and IBM. None of them has competed very effectively

SUN has been allowed to get their messages out and drive excitement around them for a variety of reasons First is that companies like IBM, HP and Compaq have not had effective leadership messages IBM says it is eBusiness and that is about it.

In fact it is the thought leadership that SUN has been able to exercise compared to all other companies in our industry that makes them worth having a memo focused on how we compete with them. It is not justified by the volume of servers they sell or the rudeness of rhetoric.

Second, our leadership messages have been held back in the last for year for several reasons. Despite the PC being a wonderful tool we have allowed it to be too complex and costly to use. We have to not only fix this but make it clear to the world that that is happening. A lot of our leadership is evidenced in Windows2000

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and the delays there have held us back. Also despite knowing that our software platform needs a renewal to accommodate the new applications we have not had enough pieces to tell that story.

Today the world acknowledges that Web applications are too hard to write. Despite a wild number of middleware packages that are out there Web applications are the harder to evolve and maintain than any new class of application has ever been. Its not just the scale issues – it's the ability to manage all the file types and how they relate to each other. It's the difficulty of creating a reasonable user interface.

Just the scaling issue alone is one that eSite developers are very concerned about. The boxes that run Windows are getting better very fast and the absolute levels of performance will get up to SUNs levels as special NUMA and 64bit system come out in the second half of 2000 and in 2001. The first of these will be the CMP system from UNISYS which is NUMA x86. So in Scale Up we will pretty much match anything that is out there quite soon.

However, people want headroom and hardware alone is not going to give it to them. People want to avoid the problems that Ebay, Schwab and other SUN sites have had where the big box is a single point of failure. We have a chance to get the world to understand that this is a software problem – hence the term scale out. We have to show the world that developing applications that get this massive scale out capability is easy and that managing the systems is reasonable.

The tough problems ahead are software problems. Although SUN from a business point of view is not a software company they have made moves in that direction buying (middleware guy), Forte and the complex AOL/Netscape deal. I was surprised to have SUN buying Staroffice. Here is the company that said productivity software was evil and a waste of time getting into the productivity software business. Fortunately Star office is not a strong product in terms of quality or compatibility so their main push is to say it is free/cheap and that they will offer a hosted version.

SUN could sort of have their cake and eat it too when they were not viewed as being the software business. IBM and other middleware vendors would salute any SUN initiative that had the word JAVA in it. As people recognize SUN as a competitor and some of the promises of EJB have worn thin there is a big opportunity for us. We have to decide which of these SUN allies we want to bring around to doing value added on top of our platform.

Another place SUN has been strong is getting their JAVA/JINI standards accepted by a broad set of standards groups and manufacturers. Their ability to take something proprietary and try

to get it cemented into standards strikes me as something that will backfire on them. However we have only recently begun to show the world that there is an alternative that is more open than what SUN is doing.

There are two key goals that are at the heart of our competing with SUN. The first is proving that our platform provides better scalability and reliability. This requires turning around the prevailing attitudes. The second is getting developers excited about our software platform as the best way to build their web application. Both of these are tough marketing challenges but they are the kind of challenges that Microsoft has been very very good at. These efforts will be among the very few top priorities we have during the next several years. I see this as the most interesting chapter in our ongoing competition with SUN. We now have an approach that is superior to what SUN is offering for the most demanding customers that SUN has.

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