

May 21, 2002



John Groenveld
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Dear Mr. Groenveld,

I am writing in response to your letter to Judy Estrin in her role as a member of the Board of Directors of Sun Microsystems requesting changes to Sun's strategy for the Solaris for Intel (x86) platform. As your letter points out, we are listening and have engaged in a series of debates with representatives from the Solaris community during the past two months.

I appreciate the fact that we may not be moving as fast as you would like but we have indeed investigated a number of possible ways for Sun and the community to work together on future versions of Solaris x86. Much of this work has been conducted with the representative group from the community with joint respect for confidentiality of the information shared. Sun continues to work towards greater cooperation with the Solaris community within the funding limitations imposed by the current economic climate.

In your letter you referred to a number of concerns regarding Sun's Linux announcements and strategy and made observations about Sun's practices. I'd like to address these in the rest of this letter.

Q: How does Sun think it can compete selling entry-level Linux servers?

In its decision to sell entry-level Linux servers, it is not Sun's intent to compete in the broad Linux/Intel marketplace. Our announcement clearly said that we intend to compete in the edge-of-the-network server market where Sun already has customer relationships. Sun has existing customers requesting we provide a solution using x86-based devices, running Linux, that we supply and maintain. We see this as a growth opportunity for Sun and was part of the rationale for acquiring the Cobalt organization some time ago. We also plan to add value by making our Sun ONE software products, storage management products and our system management offerings available over time on our Linux system. Sun believes that this will provide a superior platform to customers.

Q: Why does Sun think it can be successful selling multiple OSes?

We have always maintained that Linux was part of the overall Unix market. Given the high degree of affinity between Unix and Linux, we feel that Linux represents an extension of our offering into new spaces instead of selling multiple OSes. Since Sun purchased Cobalt we have been distributing Linux as part of an appliance play. Our announcement leverages that knowledge and infrastructure to widen the appeal of these lines of products. We are specifically not running multiple OSes on one line of systems. That is, Sun is not engineering Linux for SPARC platforms, though we will empower the community to do so if they wish. Sun's focused approach is very different from that of our competition and vastly different from that of SGI's, as mentioned in your letter.

Q: Why should Sun embrace Linux when, as you indicated, Linus Torvalds states Java is dead?

Java technology is very much alive and thriving and I assert that it is not in Linus Torvalds' interest to see it die either. Today's enterprise developers are writing to platform independent interfaces, like Java. With platform independent applications, the OS platforms can be selected for their optimal characteristics by the user, rather than the one OS that a developer chose to code to. For Linux, this expands the application capture for the Linux community which benefits the users. Java technology has the potential to benefit every computer user regardless of make and OS that it runs. This is why Sun is very active in making available various Java-related products and technologies on the Linux platform. This is a major part of our offering on the Linux system we will offer as well.

Q: Why is Sun embracing GNOME when, as you have reported, Miguel de Icaza prefers competing technologies to Sun?

GNOME is a community developer desktop that is popular across almost every UNIX OS. While one or more of the contributors may have expressed a preference for non-Sun technologies, there are others that are passionate about Java technologies too. By embracing GNOME, Sun is able to leverage a common desktop interface to users and applications that most UNIX variants use, and has the potential to unify the most common UNIX implementations around the world. Sun is working with the GNOME foundation members and contributing code and expertise to extend the desktop into the future. The model of collaborative development for GNOME results in advanced technologies that we believe will benefit virtually everyone in the industry.

Q: When will Sun acknowledge and mitigate the competitive aspects of Linux-based solutions that, as you appear to believe, can harm Sun's market for high-end systems?

Where there are applications that can exploit a large number of single computers clustered together Sun has/will have solutions based on both Linux and Solaris. There are however, many application types that are not well suited to (or impossible to) implement using clusters of low-end systems. Successful differentiation of the solution offered to customers to solve business problems comes from more than just the architecture of how the components are arranged. We have products and strategies that we believe will enable Sun to remain competitive in our chosen markets.

Q: How does Sun plan to compete against Linux on mainframe systems?

According to our research, Sun competes very favorably against IBM Mainframes that run Linux: the application portfolio is small in comparison to that of Solaris: IBM mainframes do not emulate the x86 instruction set, so all Linux applications that run on mainframes, whether Linux clusters or not, must be recompiled. The number of ISVs that are prepared to support their Linux applications on non-x86 architectures are very small. With little or no applications mix, we expect that users will likely find this an unattractive solution. The product attracting the most attention is co-hosted using z/VM. But it's far from free. Typically you would pay both a purchase fee per processor and an annual license fee per processor for z/VM, not to mention annual maintenance on the mainframe itself. On a 12-way zSeries system we estimate that to be half a million dollars to host those 'free' Linux images. It's more complicated; this isn't Linux running on a 4-way Intel server, it's a mainframe system with all the overhead of administering the system and it's VM software.

Q: Sun's heart and soul is in Solaris, why would customers want to buy Linux from Sun?

It's true that our heart and soul is in UNIX and always has been. We have worked with our own implementation called Solaris for many years and I agree with you that it is reported to be a superior OS for commercial use, especially in high-end applications.

Broadening our UNIX expertise by working with the Linux OS is a natural evolution for Sun. We have much to learn from and contribute to the open source community, much as we have in the past. Working more closely with the Linux community is not seen as against our heart and soul, but more as a way to share in the future of UNIX. As I said earlier, we see Linux to be a part of the overall UNIX market.

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Your letter suggested that we have neglected and ignored the Solaris x86 version over the years. In fact, we have invested significantly in the product over the years and have targeted it at a number of opportunities for both revenue and marketshare. These have been met with a degree of success. This, however, has not justified a business investment case that could show sufficient returns to Sun to justify as large an investment in all the programs that the community would like to have seen (based on recent feedback). Sun continues to invest in Solaris x86 by sustaining the existing releases and developments in possible future versions.

You also commented that members of Sun's staff use Microsoft Windows and Office products for mobile use. Our new StarOffice 6.0 release is being extremely well received both internally and externally especially with its improved import/export capabilities. As for the operating system used on mobile devices, there are large segments of Sun's mobile workforce that use Solaris on x86 laptops.

You and the Solaris community have demonstrated extraordinary levels of passion and loyalty to the Solaris operating system. This has not gone unnoticed and we will continue to work with our customers and the Solaris communities to adapt our strategies and products to more closely meet your needs, when and where the business opportunities make sense.

Sincerely,



Patricia C. Sultz
Executive Vice President
Software Systems Group
Sun Microsystems, Inc.

cc: Judith L. Estrin, CEO
Packet Design, Inc.