



Depo. Ex. 1304

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Subject: SPARC, MIPS & Compaq
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Recent events show that we are more in danger than ever of losing the key early ground to SPARC, which puts our long term systems business in serious doubt. Compaq is considering SPARC, as well as friendlier options, and now Olivetti is too.

At present we are paralyzed because Compaq is reluctant to take the kind of role that is required to push our software and combat Sun in a reasonable way. They want to push UNIX (they'll relent to giving us equal billing, but they will expend major effort in making UNIX successful), they are considering SPARC, and they are considering a number of hamstringing non-SPARC responses.

There is considerable sentiment that we should adopt a strategy of appeasement toward Compaq. This means not pushing any other strategy for fear that it will enrage them and push them to SPARC. If we succeed in appeasing them, we'll have their halfhearted support, and if they go with SPARC or a poor non-SPARC strategy then we lose our systems business.

This approach is crazy because there is no recovery plan. If motivated by our fear that without Compaq we won't have a market - the Big Deal syndrome. I think that the time has come to start pursuing our own strategic direction

There is no point in pissing Compaq off deliberately, but we should adopt the following plan:

1. Give our hardware design to MIPS. They would license it openly, including licensing the ASICs to the semiconductor partners, and the board design to OEMs. MIPS would be the official source - we would not have MS copyrights or anything else on the stuff. This is not a deadly secret, it is just that there is no point in being high profile about it. People may assume that we had input because of our software role, but MIPS will be viewed as the source by almost everybody.

Note that our design has a large advantage over things that MIPS has done in the past (or the DEC design) is that it can be built cheaper, and it allows you to trivially add any PC style bus or chips (EISA, MCA etc) because one of our chips mimics the signals of a 486 bus.

2. The slogan for the hardware design will be "The First Open System". Today, the SPARC is open, but the system design is NOT open - you need proprietary LSI logic chips etc. This system will be licensed in a similar fashion to the R4000 - you can buy an Architecture License which gets you the spec and the right to make your own custom implementation, or you can get the full Semiconductor License which lets you manufacture the present ASICs. This is actually a very major point, which would be taken as a big deal in the industry. The announcement of the platform would play up many of the points in the Trends in the Microprocessor Industry memo - that systems vendors must get involved in making high integration "PC on a chip" solutions and the ONLY way for them to do so is to be able to license both the CPU and the rest of the system architecture. This announcement lets them do this for the first time.

3. The MIPS camp, like the UNIX world as a whole, is divided between OSF and AT&T factions. We will not succeed in unifying this as we once thought, and I do not believe that we should even try. If MIPS and/or SCO offer a product - fine, but it is not a big deal to us and we would NOT expend huge effort to ram a MIPS UNIX standard down anybody's throat. Oddly enough it is not a big deal to the UNIX market players themselves either - they will pursue their present fractured strategies quite happily.

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4. Concurrent with MIPS pushing this hardware platform to OEMs, we would deliver the following software message to most relevant OEMS (see below for list). The message is:

- We will have an NT Windows binary application standard for R4000 MIPS with our byte ordering. It is our primary RISC strategy, and we will not put it on SPARC.
- The simplest way to get this app level binary standard is that we will have a system software release of NT Windows for the MIPS reference platform - if you buy the standard chip set and board design from the various vendors, there is no adaptation work.
- We may also provide source code to people that want to adapt to another system architecture (but still MIPS & same byte order). This is the message to DEC, or to anybody that balks at the standard platform. We do NOT care what the mix is of DEC designs versus our design any more than we care about ISV versus MCA versus EISA today. It is VERY important that people have at least one easy to build, cheap system that connects to PC buses which is why we are putting our design out, but given competition we don't care long term.
- We are NOT pushing the MIPS hardware platform per se, but we ARE saying that we will push a binary standard which consists of the Win 32 API and the R4000 with correct byte order. The hardware platform is just the easiest way to build one, and the only open design that anybody has asked us to endorse so far.
- Some OEMs will just offer the machine as NT Windows only (PC industry types), and some will offer NT Windows as a side line to their UNIX workstation business. We will not require people to trash UNIX to sign up - we will encourage them to position this as adding a new binary standard to their line up which will give them access to Win 32 applications. The message above would be delivered to OEMs as early as next week (Olivetti needs to hear this) and we would give it to a fairly long list of OEMs (see below).

5. Our goal is to shoot for an announcement by the end of this year, or early next year. We may want to pull this up in fact. MIPS should announce their hardware reference platform independent of us, but either just before or just after our announcement. Our message would be:

- We would formally announce Win 32, and make sure that a portion of the announcement mentioned x86 as well.
- We would announce the creation of the Win 32/MIPS binary standard discussed in point 4 above. We would publically hit on each of the points mentioned there.
- We would get a list of OEMs to come up on stage and announce their support.
- SDKs would be available in 91 and the product would ship early 92.
- The positioning of the machines is as the world's fastest Windows machines. We would make a big deal about source compatibility between x86 and MIPS for OS/2 2.0 server apps and for Win 32 apps.
- The tone of the MIPS side would be that RISC offers some unique advantages for a specialized part of the Windows market where people need very fast desktop machines. We would NOT be create any expectation that they would take over the earth. We would show our slide that shows 486 fastest for existing apps and this platform great for new apps, but slow on existing apps. It is really a balanced future oriented message.

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- A major part of the message is that your investment in Windows is safe - we are going to address 32 bits, and beyond that we will address RISC. You can go ahead and ignore Sun and that crap because Windows has all bases covered.

- We would also talk about the OS/2 3.0 kernel that is underneath NT Windows, how it is an industrial strength kernel for servers etc and it will serve advanced desktops etc.

- Our announcement would not include SCO or push any UNIX standard. We could say that UNIX addresses a present well defined market that has little if any overlap with the mainstream Windows desktop market. It is nice that this specialized system is available on the same hardware as NT Windows, and for customers in that market it may be the right choice. Our simple goal is the realm of Windows Computing. Over the next several years it will expand to include applications that require the performance that the R4000 can deliver, and we are taking the steps to make sure that this is possible.

The purpose of announcing early like this is to freeze the market at the OEM and ISV level. In this respect it is JUST like the original Windows announcement. This time we have a lot better development team, so the time between announce and ship will be a lot smaller. Nevertheless we need to get our message out there.

One might worry that this will help Sun because we will just have vaporware, that people will stop buying 486 machines, that we will have endorsed RISC but not delivered. After thinking about this, I think that this is emphatically NOT the case:

- We answer the charge of "vaporware" by pointing at Windows, (after all, we are porting it). Windows is shipping a million copies an hour and that isn't vapor at all. Every Win 3 sold and every new Windows app is a nail in Sun's coffin. We would go on a PR offensive with exactly that mission. The big news is that now that MIPS will have Windows, and gain all of the momentum that is building - how can Sun survive? So, Scott, do you really think you can fight that avalanche?

- The "Osborne effect" is not relevant here. A long term announcement for MIPS based Windows in 92 will NOT freeze the end user market. It is just an endorsement that Windows has a future - it is too far off to hurt immediate sales, and in fact it will help. The original Windows announcement did not hurt Dos sales because people decided to wait for it. The only time when you get into an Osborne effect is when you announce something near term that is a viable alternative.

We certainly do need to follow this announcement up with a good demo in 6-8 months when the SDK ships, but preannouncement is going to give Sun a real problem.

6. We would embark on the PR campaign mentioned above to reinforce the notion that Windows was the desktop API for the next 10 years, just as Dos was for the first 10 years. Sun and others that covet the desktop would have to beat Windows - and who can do that? This should be a real push - analysts, ISVs etc. We would really go on the offensive about how strong Windows is, and how irrelevant Sun and others are as would be challengers.

7. One potential sop to IBM would be to announce TWO binary standards for RISC for Win 32 and OS/2 3.0 - MIPS and RIOS. I think that the Austin guys would actually do this, and they would not even be mad about MIPS being the other one because it hurts SPARC so much. If we do this, then we would announce that we will not port to any other architecture for 3 years (obviously non binding) to really rub it in that SPARC is out. The way to position this to them is that we've seen Sun building steam and we need to support the MIPS world as a generic RISC. Ideally we would do this with a short enough lead time that they couldn't mess around too long. All we would do is announce a long term statement of direction that the technology would be available on RIOS - this is safe for them, and it makes Sun look bad, so we could probably make it an easy decision for them.

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8. In the past we've talked about Power PC - a next generation PC spec with advanced audio and video for both x86 and MIPS. We would still do this, but it does not have to be part of the announcement or the base level hardware that MIPS would push. We could reserve this as an exclusive club the way that we originally planned RISC PC, or we could go public with it later on. There is no need to make this part of the early announcement. The system design that MIPS would push has a video daughtercard with a connector so we could always add the new stuff to these systems if that was important. Note that machines would not ship in volume until 92 anyway so we would have until this spring to finalize the Power PC hardware.

9. Our stance to Compaq on this is as follows:

- We do not tell them about this until we have had enough initial discussions to confirm that this direction is viable. This means getting the framework of an agreement in place with MIPS on the hardware platform and also getting agreement from at least 5 OEMs. This is NO different than them talking to Sun without telling us first. It mainly means that we don't tell them we are going to do something until we know that it is really possible and will play out like we think. This initial activity has to start soon.
- We then tell them that there is enough steam building under the MIPS camp, and enough uncertainty from Sun's progress that we feel compelled to announce an application level binary standard for NT Windows as a future product. This in NO WAY burts their plans - UNLESS they are really planning to go with SPARC. Since we are not saying that people have to use one system design, they can come out with their "superior" Compaq/DEC design at any time.
- Compaq can either sign up and attend the announcement, or not as they see fit but we should set a stake in the ground and not move it for them.
- We can present to them why we think that this is harmless to their present business, and will not harm current sales.
- This is not something rude that we should let them make us feel guilty about. They have outlined three alternatives for their actions, two of which are extremely bad for us, and the remaining one is not very attractive, could get fucked up and at best puts us on an equal footing with UNIX which is a big step down from the present situation. We are just presenting them with something which is highly compatible with one of their options.
- If Compaq really went with SPARC over this plan, then they were heading there anyway. The environment that this plan would create is much more friendly to them than the SPARC environment. We are just helping the MIPS community to come even part way towards where SPARC already is.

10. The OEMs to contact are basically the same ones listed in previous mail about uniting the MIPS world: Olivetti, NEC, HP (a long shot but worth it), DEC, Bull/Zenith, Siemens/Nixdorf, Nokia, Sony, and finally selected people in the pure PC camp - Acer, AST etc. MIPS can throw in a number of big companies which will endorse but not say much (Amdahl, Tandem ...). In the final weeks we could consider adding just about anybody else who had reasonable volume. The idea here is not to be exclusive - it is to get a reasonably large list of reasonably credible companies.

The first comment is likely to be "do you have anything without Compaq and IBM?". There are two answers:

First, the goal is NOT to make this machine sell zillions of copies in 1991 - it probably won't even ship then. What we need to do is announce a long term direction for making high end Windows machines -

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and freeze Sun out of our OEMs, our ISVs, and from industry perceptions at large. The idea that Microsoft will move Windows to MIPS is a very powerful concept that can be used to put Sun on the defensive. As mentioned above, we need people to view every sale of Windows or a Windows app as a vote (and investment) against Sun. The OEMs listed above are plenty credible to achieve our goals.

Second, I think that we grossly overestimate Compaq's ability in this area. They have a great reputation, but at present their plans are NOT in sync with ours - they are on a mission to clean up in the workstation market - and all signs are showing that if any cleaning is done, Sun will mop the floor up with them. Perhaps they can win competing against Sun in their own backyard where everybody else has lost, but I doubt it. Even if they do succeed, they are presently off to push UNIX not our stuff.

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