

tabbler
**PLAINTIFF'S
EXHIBIT**
1247
Comes v. Microsoft

MICROSOFT RISC PC TASK FORCE REPORT

A Tale of Two Markets - Workstations vs PCs

CONFIDENTIAL

ADVANCED TECHNOLOGY AND BUSINESS DEVELOPMENT

X0195791

MICROSOFT CONFIDENTIAL

Defendant No 5114
**DEFENDANT'S
EXHIBIT**
5706

MS-PCA 1113854
CONFIDENTIAL

TABLE OF CONTENTS

TABLE OF CONTENTS 2
INTRODUCTION 3
MARKET COMPARISON 4
 Sun's Strategy 5
 Fundamental Issues 6
 Second Order Effects 9
WHAT TO DO 11
 "Business Workstation" Market 12
 Technical Workstation Market 12
 Power PC 13

I. INTRODUCTION

We are facing a threat from Sun and the SPARC world which has generated lots of concern both here and among our OEM customers. One key issue which everyone who looks at this problem discovers at some point or another is that Sun's present business is not the traditional PC market. At one level this is obvious, but when it comes down to deciding how to compete with Sun, the differences in their current approach generates a lot of confusion. Don't we need to have a workstation offering? Is RISC what is important or is it UNIX? Do our OEMs need direct sales?

The clearest example was Carl's mail the other day that started by saying that we are facing a workstation threat rather than a RISC threat. Although I largely agree with Carl's proposed actions, and believe he understands this issue, I think that the reality of the situation is not that simple - there is more than one threat, and it is easy for us or our OEMs to get confused. We need to be very clear on the distinction between the markets and what the real threat is.

The challenge is all about Sun - they are the real enemy. Unfortunately that has become a point of confusion. In particular, we must distinguish between the following goals:

- A. Prevent Sun from attracting our present end user customers. Sun clearly has a goal of coming after our present customer base, or at least in having the SPARC world as a whole do so. We must take steps internally to our market to make it immune to this threat. Although this is phrased in terms of the final result with end users, our OEM customers and ISVs will fall long before end users do.
- B. Compete with Sun for their *present* and near term customers. This means going after a particular set of customers in a particular fashion, and is driven by looking at Sun's *current* tactics.

These are not mutually exclusive, and it might even be possible to achieve both of them with one strategy, but in general they are utterly different and we have to keep them straight.

Our efforts to create a RISC PC have been focussed primarily on plan A. Compaq, on the other hand, has gotten interested in B, in part because they are worried about how to do plan A without hurting their present market. Recent email here at Microsoft about promoting 486 machines as "business workstations" is aimed at plan B (but with an eye toward assisting A).

We need to have a strategy in *both* cases. This is true both in planning our own product line up, and also in being able to articulate both strategies to our OEM customers. As events progress they will become increasingly confused over what to do, and this only plays into Sun's hands.

CONFIDENTIAL

Workstations vs PCs

2. MARKET COMPARISON

The most salient points of distinction between the two markets are as follows:

Workstations	PCs
175K machine/year run rate. This is for the largest binary compatible standard.	12 million machine/year run rate - of binary compatible machines.
Direct sales - Workstations today are a "top down" decision.	Retail/indirect distribution. PCs have been a "bottom up" phenomena.
High margins - There is no clone competition yet.	Low margins - enforced by competition from 3rd tier clone vendors.
High growth. Buyers are installing workstations for new tasks.	Lower growth. PCs are more mature, more upgrades than new adoption.
Bought as system - Workstations sales almost always include servers and desktops.	Bought piecemeal. The Lan is usually bought from a separate vendor.
Small set of ISVs with niche products. This is mainly focussed on engineering and technical areas, with few horizontal apps.	Broad set of ISVs with horizontal applications. This is focussed on personal productivity and individuals.
No good software distribution channel. Today it is a mix of direct sales and VARs and what amounts to mail order from the Catalyst catalog. Plans for CD Rom distribution in the future.	Strong indirect distribution channel for binary application software. Application vendors in the PC market do not typically have to have direct sales forces, and can easily get mass distribution.
UNIX - This is perceived as a "real os", with virtual memory, multitasking etc. In some cases it also benefits from a "standards" and openness message.	Windows & Dos - This mean no virtual memory, multitasking. Windows 3.0 actually corrects most of these (NT fixes the rest) but there is a perception of weakness.
One primary vendor. Sun is working hard to create the infrastructure to allow clones.	Large base of manufacturers - This is enabled by a well established infrastructure which includes companies like Intel, Chips & Technologies and of course Microsoft.
RISC price/performance. This is due to a mix of newer technology and the open processor business model.	x86 price/performance. The PC world is based on an aging, closed processor which is technically obsolete.
Powerful desktop machine. Like a PC, with hi-res graphics, a big monitor & more RAM.	Nice desktop machine. Like a workstation with worse graphics & less RAM.

Workstations vs PCs

2.1. Sun's Strategy

Our present understanding of Sun's overall strategy is as follows:

- Stay the course with direct sales and the conventional UNIX workstation market. They will rely on their present approach as the mainstream core of their business for the next two years. The growth rate is large, and they can comfortably use this to finance their assault on other markets, and give them enough time to get the pieces in place. The key niche markets that they will exploit are technical workstations and software development within corporations. This will broaden to cover an increasingly large set of customers, but it is a mistake to think that this approach is the limit of Sun's ambition. They will gladly take on retail distribution when they have the pieces in place to be successful at it. The market they milk today is a convenient stepping stone, but not an end unto itself.
- Experiment with other channels. This will occur through limited test cases such as their deal with Micro Age, and through SPARC clone companies such as Northgate, Compuadd and others who are expendable missionaries in new markets.
- Build an arsenal of ISV support. They do not have a sufficient set of desktop productivity applications to really threaten PCs for control of mainstream office computing, but they get more support every day. Their present growth rate even *without* having such apps will take them to 300K - 500K units/year run rate within the next year to 18 months, which looks attractive to ISVs. In addition, there is the effect of being the number two platform. Everybody does some development on the number two platform, for incremental revenue, strategic hedge and so forth. Dos has been number one for a long time. For a while, the number two spot was taken by the Macintosh, then for a while it was OS/2. We are in an enormous danger right now of having SPARC be number two and Windows be number one. Since ISV support is cumulative and Sun is looking for critical mass, having them in number two is terrible for us - we must try to get one of our platforms (such as Windows on RISC) to be number two, and SPARC to be third or less.
- Serve as a focal point for rancor with Intel and Microsoft. Many people in the industry are jealous of our success - this includes ISVs, OEMs and others. They also hate Intel for much the same set of reasons. IBM's role in the market is also a point against the PC world, although less direct than Intel and us. Sun is the beneficiary of all of this because they offer a brand new world. The old saying about the "devil you know being better than the devil you don't" does not seem to impress many people.
- Once they are ready, make a major push on the PC market. Within the next two years they will be in an excellent position to directly assail PCs with widespread retail distribution of both machines and binary software packages. In early 1992 they will be selling at the 300K - 500K machines per year run rate, will have a critical mass set of major applications, and they will have a commanding price/performance lead on the x86. Note that Sun is playing a long term bet, and they can afford to wait until the time is ripe.

This all assumes their present level of industry support. The endorsement of major players in the PC market might accelerate things.

CONFIDENTIAL

2/26/92 11:13 AM

MICROSOFT CONFIDENTIAL

PAGE 5

X0195705

MS-PCA 1113858
CONFIDENTIAL

Workstations vs PCs

Note that the strategy above is NOT aimed at bringing RISC into the PC market - rather it is trying to grow the workstation market to the same volume levels, and the same distribution methods as PCs. This is a critical distinction. Sun is creating a parallel world to the PC industry, in much the same way as the Macintosh is a parallel world to IBM compatible PCs. It is not a high end PC, but rather a new beast which has some key differentiating features.

The other key thing to note is that as far as Sun is concerned, the die is cast - they are committed to a strategy of rapid expansion and an assault on the PC customer base. They have taken the step to build a clone market, and this will not let them continue as a technical niche oriented, workstation only company. Leading a flotilla of clone vendors cuts into your market share and your margins and the only way that you can come out ahead is to have it simulate extraordinary market expansion to compensate. They have taken this bet, and there really is no turning back - we can count on them to see it through to the death.

2.2. Fundamental Issues

The comparison table covers many points that people raise about the two markets. If you step back and look at the really fundamental issues it boils down to some very simple points.

- We have the ISVs and a binary software distribution channel. This is tremendously important if you want to address the mainstream office productivity market. Sun is working as hard as they can to fix this shortcoming. It is the single largest thing holding them back from the mass market - today you just can't use a Sun workstation to do most of the things a PC is used for. This is true regardless of price, who sold you the machine, or other factors. Although distribution, OEM support and other things are crucial, ISVs are key. Sun is already building all of the other infrastructure necessary (clone kits, retail etc) - in part to be ready and in part to influence ISVs.
- We have the bulk of the end users. This is a vitally important thing to remember, but people seem to forget this all the time - from a raw numbers point of view, Sun wants our market a hell of a lot more than we want theirs. If tomorrow every existing Sun user threw out his machine and bought a PC with Windows, we would scarcely be able to tell from our own sales figures - nor could our OEMs tell unless all of the volume went to one of them. Our kind of volume is the pot of gold that motivates Sun to make some very risky moves, such as bringing on clones (which could hurt margins). PC OEMs that look at the workstation market as an opportunity should keep in mind that Sun itself is trying to shift their market away from where it is today in order to attain PC-like volume levels.
- RISC gives them a superior technical base. Over time, ISVs can take the 2X or more performance advantage that Sun will soon have and turn it into compelling end user features that we will be unable to match with the x86 world. The truly dangerous thing is that it involves a change to the binary software compatibility standard. It is tricky for us to take advantage of RISC, and transfer our existing momentum because it means we cannot rely on compatibility - which has been our biggest strength. This is true for our software, and also true for our OEMs who have existing businesses to protect.

In the "first order" approximation, *nothing* else matters. In this sense we *are* facing a "RISC threat" - it is the only one of the points listed in the comparison table above which in the long run is dramatic enough that it could break our current momentum with ISVs. This may sound extreme, but I think it

CONFIDENTIAL
X0195706 PAGE 6

2/26/92 11:13 AM

MICROSOFT CONFIDENTIAL

MS-PCA 1113859
CONFIDENTIAL

Workstations vs PCs

is the accurate long term view. There are many other factors which will need to be considered once you dive into the problem, but this is the key.

At the same time, it is important to recognize that it is a long term issue. If we lose badly enough in the short term, we may never get to roll out the long term solution. We certainly must work to address the short term issues, but without a long term strategy we are sunk. Since the long term plan takes a very long time to reach fruition we must start it at once.

Given this view, the primary strategy for us is very clear - find a way to transfer our existing strength to a platform which includes RISC, and thus deny Sun the one crucial point of differentiation which cannot be addressed with incremental near term moves. This is another way to phrase plan A discussed in the introduction - prevent Sun from taking over our market. The plan of record for doing this is based on the following ideas:

- **Leverage Windows.** We will use the Windows API implemented on top of NT to be the bridge for ISVs, and make it easy to port a Windows application to RISC.
- **Position RISC as a high end personal computer.** This is one of the key goals of the Power PC approach - unify the RISC platform with the x86 product line and make them appear to be part of a continuous spectrum.
- **Tantalize ISVs.** The other key thrust in Power PC is to create a platform (for both x86 and RISC) which gives them some very interesting new capabilities. The goal is to make Power PCs (of both instruction sets) the favored platform for innovation.
- **Use our existing OEMs to create a standard.** This has had very mixed success because some of our OEMs, like Compaq are not comfortable in the inherently risky role of an innovator. Nevertheless, we must try to use our influence in the industry as a weapon to offset the fact that Sun is way ahead of us in many other areas (reference platform, close kits ...).

Note that this says nothing about competing with Sun in their *present* market, or adopting their present tactics because that is not our primary goal. It is a fine secondary goal, but we must first strengthen the PC industry against an impending assault from Sun. This means changing the instruction set and establishing a new binary standard, which is a big enough undertaking that we must move on it at once.

There are several immediate corollaries to the point that our main strategy is not an attempt to go after Sun's present market or tactics:

- **Market strength by itself is not enough.** We cannot keep Sun away by just making Windows on x86 even more popular. That would still leave Sun with enough points of differentiation (particularly RISC) that they can continue to gain momentum. The analogy we've used in the past is that no amount of strength in the character mode PC market could have stopped the Mac. The only thing which might have worked would have been the ability to deny the Mac it's key point of differentiation from other PCs - which was GUI.

CONFIDENTIAL

2/26/92 11:13 AM

MICROSOFT CONFIDENTIAL

PAGE 7
X01SS737

MS-PCA 1113860
CONFIDENTIAL

We do not have to stop Sun ISV activity in order to win. Some people (including those at Compaq) get confused that we have to shut off ISVs from going to Sun. We don't have to do that, because we are ahead and will win a tie. In the short term we must make sure that ISVs funnel some of the Window 3 momentum toward RISC by making it a small incremental investment. In the long term we must make sure that the next set of "killer apps" that really exploits RISC performance is not a Sun only phenomena. Every new successful machine has been established on the strength of one (or a mere handful) of killer apps, and we must make sure that SPARC does not *uniquely* get an edge over us in this way.

We do not have to be point for point competitive. One comment that has come up a lot is whether we can "compete against UNIX with Windows" or similar direct comparisons. In this phase of our strategy we are not trying to compete directly at all - instead we are trying to end run the competition by making our own market stronger. It is asking the question the wrong way around - it is they that are coming after us. We want to put *them* in the position of saying "how can we compete with Windows using UNIX, especially now that Windows includes RISC?". The answer we want them to come up with is that they probably can beat us in the small, niche oriented, UNIX-loving market they own today and not in our mass market.

Hurting Sun sales is not enough. One dangerous illusion is that through efforts like plan B, we can slow down or stop Sun. This ignores the fact that Sun is making a long term bet on the validity of RISC technology, and short term issues are not going to effect them, unless they are severe enough to actually bankrupt them. They will stick to their current market, keep making some money, and gather ISVs under the banner of platform neutrality and RISC performance. As the performance gap with x86 widens, and some killer apps are written which exploit it, they will have their chance. A good analogy is Microsoft application strategy to bet on GUI - it was a long term move which bet on using a fundamental paradigm shift in the technology to advance against entrenched competition. Hurting Sun's present market is a lot like Lotus beating up on Multiplan - it was irrelevant to Jazz (their early shot at GUI) and later on was irrelevant in fighting Excel.

Obviously we would like to make our existing market super strong, stop all Sun ISV activity and beat them across the board on every feature. It is important to remember that our strategy is not so fragile that we need each of these in order to win.

The time scale on which we do this is also important. Although the fundamental issue is a long term one, that does not belie any lack of urgency. We need to establish a new binary standard, which is a hell of a hard thing to do. Precisely because of its long term importance, it also takes a long time to take effect. We are also way behind Sun, who put their platform out four years ago.

2.3. Second Order Effects

Assuming that we have a strategy to deal with the fundamental issues, there remains the question of what to do about the shorter term tactics, and how we or our OEMs can "take the battle to the enemy" by adopting one level or another of plan B - competing with Sun. There are several reasons for doing this:

- Give Sun some grief in their home territory. This is mainly interesting as an indirect way to slow them down and delay or prevent their entry into our market.

2/26/92 11:13 AM

MICROSOFT CONFIDENTIAL

CONFIDENTIAL
X015570S

PAGE 8

Workstations vs PCs

- Make UNIX continue to look confused. One of their points which is anathema to us is UNIX. This has been a mixed blessing for them because UNIX is plagued with fragmentation and confusion. Anything that we can do to continue that state of affairs helps us.
- Learn any interesting tricks for our own market. The fact that Sun can sell 175K units/year without a lot of the key benefits PC have is an interesting fact that might help our OEMs with incremental sales.
- Prevent Sun from gaining general mindshare. A much more important issue than hurting their sales in their home market is stopping the stream of good news which fosters a general impression of wild, monotonous success. As an example, the PC industry must be seen as having a long term future, and not simply be an interim stage until we can all afford powerful SPARCstations.

It cannot be stressed enough that these goals, however nice, are not sufficient by themselves. Unless we could *kill* Sun or *kill* UNIX outright there is *no* way for Microsoft or the PC industry to win by taking these approaches alone. It is highly unlikely that we or any of our OEMs could kill Sun at this point by trying to compete on their home turf. Even if one or more of our customers could do so, if they didn't do it with a platform that we are involved in (such as some kind of UNIX), we would just as well be replaced. We'd replace "Sun" with another name. If a PC company out-SPARced Sun, or MIPS suddenly took all of Sun's market, or IBM RIOS came out of nowhere and wiped them out, then pretty soon we'd be writing memos like this one talking about how we faced a threat from the new victor. The only long term hope is to get a platform which we control to win, and that means NT Windows.

Looking at the market comparison, there are a number of points in Sun's favor which we, or the PC industry, could exploit:

- Direct vs indirect sales. Sun is able to reach some corporate customers which cannot buy a similar package of goods and services from PC vendors because they have a direct sales force. One can make an argument that as corporate buying decisions become more "top down" and centralized, and systems increasingly involve networks and total systems sales, that one needs a direct sales force to compete.
- Selling the whole system, including the network. This is another area where the bulk of the PC industry has not done a good job to date, but Sun has. Part of this is a packaging issue (UNIX includes most networking features), part is sales and distribution and part of it is product line (good support for dialless desktop machines, admin features, security features).
- UNIX is a requirement for a segment of the market. This is because there are a number of specialized applications which are only found there, or it is the preferred development environment for many people because of training and background.
- Sun machines are a good value versus PCs. This is particularly true in having a lot of RAM, performance and graphics resolution. Most PC configurations do not compete in this domain, and if you do set up a PC which does, it is much more expensive. We could certainly put our best foot forward and create both price competition and correct the perception that PCs are weak compared to SPARCstations.

CONFIDENTIAL

2/26/92 11:13 AM

MICROSOFT CONFIDENTIAL

X0195739 PAGE 9

MS-PCA 1113862
CONFIDENTIAL

Workstations vs PCs

The first two points really mean that IBM has not been holding up their end. This is exactly the area where they have traditionally been strong, and the market to which OS/2 Extended Edition was aimed. There are a number of obvious flaws with their execution (such as OS/2 itself, too much reliance on host based systems etc), but there are number of similarities in the goals.

It is certainly possible to take an set of x86 based PCs and servers (including the network) and compete head to head with Sun. This means using a direct sales force, and having the right product pieces - but you could do this using existing products off the shelf. It is just a marketing and packaging issue. Ideally IBM and others will start to do this.

It is the height of folly to believe that this is Sun's secret, or the main thing we have to fear. The direct sales force was necessary when they sold \$40K systems which had little third party software. Now that they sell \$5K systems it still works as long as you sell a bunch of them at a time. The traditional minicomputer and mainframe companies all do this - direct sales is still a powerful tool and Sun has used it like others have in the past - no better or worse. If this was the sole issue, IBM would have flattened the whole issue years ago, and they are still the ones to emulate if you want to go about this - not Sun. Sun will continue to do the familiar thing and rely on direct sales until they have their act together - which means ease of use, ease of installation and most of all enough third party ISV support that their systems appeal to the broad set of people who buy their "solutions" in shrinkwrap at Egghead rather than needing to have the Sun salesman set up a turn key system. At that point Sun will do retail, and what ever other channels make sense.

UNIX is another issue which can be a red herring. It is the universal choice for machines that have no applications - people in school learn how to write for UNIX, academics (an important part of the workstation market, especially in the early days), and it was the obvious approach for hardware start ups like Sun which founded the workstation market - porting UNIX was easier than writing a proprietary system from scratch. It is very easy to forget that the company that lead the workstation industry for many years, and who only recently slipped into second place (largely because they did not have RISC and lost to the SPARC's price/performance) did *not* use UNIX, and *did* in fact write a proprietary operating system (Apollo Domain). Apollo has a UNIX mapping layer that works pretty well, but they still use Domain as their base.

This is not an attempt to ridicule UNIX, but it is important to keep things in perspective. There are customers that really do need UNIX, either because they need features that it has, or for other reasons. Nevertheless, it is not the source of Sun's strength, and OEMs who think that they need it in order to compete with Sun are almost certainly fooling themselves. The market that really needs UNIX already has it - Sun's market expansion is largely to companies and customers which are outside of the traditional scientific and engineering user, or government user who really does want UNIX. Unless you are after the Sun *installed base*, or the installed base of other random workstations (which in toto is far smaller than Sun today), then UNIX in and of itself is not really the hard requirement that it appears to be. It is very ironic that at the very time that Sun is trying to get ISVs from the PC and Mac worlds so that they can *break out* of the traditional UNIX mold, other people look from the outside and think that UNIX is a key ingredient.

In general, trying to enter the market at this stage to try and beat Sun by competing head to head with them with UNIX is a sucker's game. Sun is too far ahead, and too much in control of the key UNIX standards to make it viable. Mini companies with an existing sales force might sell some to loyal accounts as a defensive action to keep Sun out, but they are not going to take a significant chunk out of Sun's hide. In flailing about, endorsing UNIX, endorsing RISC etc, they will only play into Sun's hands.

CONFIDENTIAL

2/26/92 11:13 AM

MICROSOFTCONFIDENTIAL

PAGE 10

X0155800

MS-PCA 1113863
CONFIDENTIAL

Workstations vs PCs

Finally, there is the issue of the hardware capabilities. Sun has achieved the image of power and technology. Part of this is based on the fact that they used to be much more expensive, and part is a real edge - the cheapest Sun machine is arguably (but not dramatically) faster than the fastest machine in many of our OEMs product line ups. In the short term this is almost entirely a marketing issue rather than a technical one - we need to get more visibility for high end PCs, get the price of the 486 down, and create the impression that high end Windows machines are cool. One thing that is interesting is that to date Sun has *not* tried to compete in the realm of the imagination by having a machine which tantalizes ISVs in the way that Power PC will, or the NeXT machine did when it was introduced (it was pale in comparison). SPARCstations are fast and have more RAM and resolution, but they are not very interesting in other ways. This could well change in the future, but for now Sun means power and technology - not innovation.

3. WHAT TO DO

Our direct action plans are contained elsewhere, and I do not want to just repeat everything here. Here are some brief summaries which condense the key steps.

3.1. "Business Workstation" Market

This is name that Intel has come up with to describe a tactical short term response to Sun using x86 machines. Lots of email has been sent about this recently, but here are the key steps:

- Define a "flagship" 486 machine configuration for 1991. This must be something which OEMs can rapidly assemble and market to end users as a Sun competitor, and has a hot Windows machine.
- Create a catch all name and slogan for these machines. The recent suggestion of the "4 Plus" machine is a good one (486 + 4 meg RAM + 40 meg HD + "4th" generation display...). The name *must* be applicable to machines from Compaq and IBM set for fall release which will not carry the logo or name, so a self describing name like 4 Plus is good.
- Evangelize these to OEMs at our October Technical Briefing. We want to tell people that the 386SX is doing well as the *minimum* Windows 3 machine, but there is a real opportunity to push the *cool* Windows machine.
- Ask Intel to be aggressive about pricing the 486 to OEMs that sign up. This helps get price competition with Sun, and makes the 4 Plus machines appear mainstream rather than the extravagant image they have today because of ridiculous prices.
- Cooperate with Intel and OEMs in a marketing campaign to corporate end users. This pushes the notion of a scalable family of Windows 3 machines, perhaps called "the business workstations" lead by the 4 plus machine.
- Consider putting together products to support "systems sales". This means LAN oriented products. An example is the Workgroup Windows product suggested a while back which is optimized for diskless Windows machines. This is much more of a packaging and marketing issue than technology, although some work might have to be done.

CONFIDENTIAL

2/26/92 11:13 AM

MICROSOFT CONFIDENTIAL

PAGE 11

X0155801

MS-PCA 1113864
CONFIDENTIAL

Workstations vs PCs

Encourage some OEMs to combine these machines with direct sales. A feature wise competitive platform based on x86 machines with Windows and LanMan (or Novell for that matter) could easily be put together and sold to many of the business customers that Sun is attracting. There are plenty of OEMs who could see this as an opportunity, and we should support them if that is their goal.

3.2. Technical Workstation Market

This is largely a market which Sun is expanding away from, but in the meantime there are companies like DEC, HP, IBM and others who are committed to slugging it out in the shadow of the Sun juggernaut. Some OEMs see it as an incremental revenue opportunity. In general this is an illusion, Sun's strategy does not leave a lot of room for other large players, but there are some for which it could work out. The mail order companies who are planning SPARC clones (Northgate and Compuadd) for example, have little investment at stake, and might have value to add in pioneering a new channel for this type of machine. They can piggyback on Sun's efforts and sell incremental machines to universities or other places which have a Sun network installed but need some more cheap machines.

The key thing to do in this market is to prevent Sun from achieving a total clean sweep. Unless they organize very quickly, the anti-Sun forces will find themselves swamped in the next year. Headlines in the industry press saying that Sun has whupped DEC, HP, IBM and others do not help our cause. From the other perspective, most of these companies are potential Power PC OEMs and we should channel their Sun hatred toward this end.

Many of these companies are seeing the proverbial hand writing on the wall, and see some or all of the issues in the Trends in the Microprocessor Industry document occurring. This is causing them to organize, and as long as they are at it, they may as well organize around a platform which does us some good. The primary effort which affects us is the DEC/MIPS/SCO project to establish a standard UNIX version and cloneable hardware platform based on MIPS.

The steps that we should take are:

- Negotiate a role in the MIPS/SCO version of UNIX. They are open to this, and we have several potential approaches. It is important that we get a stake and some control in this.
- Work with DEC to merge their hardware reference platform with ours. Indications are that they will be open to this. This would prevent a needless fracturing of the MIPS market and give chip companies a near term target for making "clone kits" from our ASICs (and those of DEC). It also helps de-emphasize our role in creating a hardware design.
- Encourage the non-Sun workstation world to sign up. Most of this effort will be done by MIPS (with some help from DEC) and by the chip companies who want to sell clone chips. Our private support will be important to tip the balance at many key OEMs, such as HP. This would be announced in the next couple of months, letting the world know that there was a strong standard other than Sun.

CONFIDENTIAL

Workstations vs PCs

- Fold the MIPS UNIX based companies into Power PC when it is available. The basic hardware platform would be the same as Power PC (some advanced features might need to be added). Many Power PC supporters will not come from the ranks of the MIPS workstation world, but there is no reason not to work the other way around and let the workstation guys switch to Power PC when the time comes.

3.3. Power PC

This is the core strategy to lock Sun out of the mainstream PC market. It is covered elsewhere, but here is a brief description:

- Define a set of innovative system features. These include advanced graphics, audio, minimum RAM configurations etc which are designed for the next generation of applications.
- This set is implemented with both R4000 and 486 processors. We supply system software for each, using the 32 bit Windows API. This includes new APIs and libraries which use the advanced hardware features. Other system features like the user interface bitmaps and "look" are tuned to the graphics (photorealistic shading etc).
- Power PC is the high end, ultimate Windows machine. This is its initial positioning - the top 5% - 10% of the PC industry. Power PC with RISC is the hot platform for those people who have made the move to Windows apps exclusively and don't need old binaries. It is important to have Power PC with RISC appear as the newest member of a broad Windows family, which spans the range of computing from handhelds to fast RISC machines.
- Leverage Windows ISV support. There is full source compatibility between 32 bit Windows on x86 and RISC, so that addressing RISC is a small incremental investment. We also provide a set of tools (pseudo 32 bit support) to make it easy to port from 16 bit Windows, and maintain common source code.

CONFIDENTIAL

2/26/92 11:13 AM

MICROSOFT CONFIDENTIAL

X0195603

PAGE 13

MS-PCA 1113866
CONFIDENTIAL