From: paulo
Sent: Monday, May 15, 1995 12:13 PM
To: davidcol
Cc: johnlu; bradsi; jspiegel
Subject: FW: 5/9 Intel Meeting re NSP

David - Mostly I agree with what Carl said. What is missing is a strategy. These are the facts:

1) No successful HW manufacturer wants to take hardware direction from Microsoft for the precise reason they are by definition in the commodity business if they do. Intel isn't alone. Two other high-profile examples are Cirrus Logic (working with Argonaut to own 3D apis for Windows and cross platform) and Creative Labs (audio and 3D). I run into smaller attempts all the time.

What makes Intel unusual is they actually stand a chance of being successful. Sega announced this morning, for instance, their Windows titles will carry the label specifically designed for Intel NSP.

2) Microsoft doesn't want Intel to be in the system software business for the very same reason - we don't want the operating system to be a commodity.

Is there a win-win? Yes, but it's not stable. Things we have to do:

1) Anticipate - the next disagreements with Intel will be over MIDI (Opcode OMS and Blue Ribbon Wave Table Synth won't get along well with NSP), and MPEG (direct competition to Indeo 4).

We should take these to Intel, with appropriate candor, and by appropriate I mean not sharing our strategies. Rather, we should say, "in the interests of furthering PC technology we are introducing these in the next six months. We want the maximum cooperation possible with you and, as a long standing partner of MS who's success is important to us, we are telling you now." Then we should be open to appropriate compromises to allow Intel to make adjustments.

The reverse should also be true.

2) Accept the obvious - we are competitors with similar cultures. Carl is right, the code we see isn't very good. But like Microsoft, Intel is tenacous, smart, and willing to invest until they get it right. Uncomfortable cooperation that enriches each company should be our constant goal. This is done all the time in business. But Microsoft isn't very good at it. Personally, I think one reason is arrogance.

Good code or bad, competitors or not, if we don't neutralize this situation with Intel, Creative Labs, and the others, sooner or later one of these initiatives will be successful. Right now I'd bet Intel has a good chance of succeeding with NSP. This isn't because the design is great but because the story tells so well. Remember, the simple story is almost always the accepted one. Look at the Stac suit or the Apple TRO.

Microsoft can do this but we have to decide it's our job to do it. We fail to do this at our peril.

From: bradsi
Sent: Monday, May 15, 1995 8:32 AM
To: jspiegel; paulo
Subject: FW: 5/9 Intel Meeting re NSP

fyi

From: Carl Stork

PENGAD-Bayonne, N.J.
GOVERNMENT EXHIBIT
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To: bradsi; davidcol; johnlu; moshel
Cc: marshalb
Subject: RE: 5/9 Intel Meeting re NSP
Date: Friday, May 12, 1995 11:47AM

David - answering your questions:

There are some very strong underlying forces at work that make it extremely difficult to create win-win cooperation with Intel. Certainly Intel's desire to enable hardware features independent of our OS release cycle is a key factor, and we could commit to work with them to enable hardware outside our release cycles.

I don't think this would be enough for a couple of reasons:

1) Intel wants to control their destiny. They don't want to have to rely on us to meet our commitments. They have a list of commitments we have missed. Fundamentally they don't trust us.

2) They have their own ambitions in system software. IAL (Intel Architecture Labs) is 600 people, about half software. They want to write software. They feel that they need to in order to be able to control architecture evolution in the way they want to. There is also ego here.

3) Intel doesn't necessarily want to tell us what they are doing. They want to ability to advance the platform in a secret way. The reasons that they don't want to tell us include: to reduce the likelihood of our 'competing' with them by promulgating an alternative, conflicting standard; because we work with all the OEMs and CPU makers including Intel's competitors and they want to hold back some of their advancements from other CPU makers and from the OEMs whom they do not consider 'loyal'.

4) Our goals do differ. Intel wants to enable hardware - generally for all operating systems, and generally tied to Intel CPUs and perhaps tied to Intel chipsets or motherboards. Furthermore they are really only interested in new hardware sales - they don't care very much about making hardware advancements work on installed hardware or upgrading installed hardware. We on the other hand want our OS features to work on all systems and to use all CPUs, and we generally do have to consider the impacts on the installed base.

5) Lastly, the history and relations between the two companies create some real problems. In the distant past there are repeated instances where Microsoft let Intel down (distant past is like the mid-80's - before any of us were involved) - MS & Intel agreed to collaborate on Unix and networking Unix. We didn't deliver and changed course without telling them. We also agreed to work together on SMB, and then ditched that. And we committed to do some compiler collaboraton which we also failed to deliver. Because Intel didn't grow very much in the second half of the '80s, the majority of the people in IAL have been around through that phase and the reputation of Microsoft in meeting commitments is very poor.

On our side, we do not feel that Intel knows how to design or write system code. This history of much of the code that we have received from Intel is very poor in quality and often ends up being rewritten or junked completely. One example you may be familiar with is the PCI enumerator. Another example is the joint work on the DCI spec, which resulted in a complex, unimplementable spec.

The bottom line on this last point is that there are extremely complex biases against cooperation.

Having said all of the above, on the one hand I absolutely agree with you that it would be best for MS, for Intel & for the industry for us to work collaboratively on enabling new hardware; on the other hand, I think it cannot happen on NSP - too much investment and commitment by Intel into what they have developed and we cannot accept it. What we need to do is to build the foundation for better cooperation in the future, and I think that the way to do that is focus on future

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initiatives, such as USB, where we are tightly aligned, to be really open about what we are doing, to demonstrate that we will enable the hardware independent of the OS release, and that we will meet our schedule commitments. If we can get a few successes under our belt, hopefully we can broaden cooperation and overcome the biases.

From: Brad Silverberg
To: David Cole; John Ludwig; Moshe Lichtman
Cc: Carl Stork
Subject: RE: 5/9 Intel Meeting re NSP
Date: Wednesday, May 10, 1995 3:18PM

certainly we have been remiss in not advancing the hw platform faster. we have to; it's a prerogative. we need to get our mm driver model nailed down
asap, for example. we are hopeful there is a middle group but intel at this point thinks they don't need us. they have been understandably impatient with our pace.

the other part is that they have already written a lot of system sw code that they want to preserve, even though it's in conflict with our efforts.

From: davidcol
To: johnlu; moshel; bradsi
Subject: RE: 5/9 Intel Meeting re NSP
Date: Wednesday, May 10, 1995 12:14PM

Perhaps I am being rash here, but if us 2 big giants (MS and Intel) can't figure out how to play on the same field, then we are doomed to be passed up some day. Locking horns ain't gonna cut it for our customers.

These guys are tired of waiting for Windows releases to make advances in hardware. They feel the need to write system extensions to do this. We don't want em to. ok, I am nuts. Why don't we enter a

"partnership" and signup to do the system software needed for hardware advances, and we'll do it independent of operating system releases so Intel feels it's on their schedule.

I know near nothing about NSP except a few bits and pieces. is there a document or slides explaining it somewhere?

From: johnlu
Sent: Wednesday, May 10, 1995 10:04 AM
To: davidcol; moshel
Subject: FW: 5/9 Intel Meeting re NSP

From: Carl Stork
Sent: Wednesday, May 10, 1995 9:09 AM
To: bradsi; johnlu; marshalb; paulma; robp
Subject: 5/9 Intel Meeting re NSP

Intel: Craig Kinnie, Ron Whittier, Rob Sullivan
MS: Paul Maritz, Brad Silverberg, Carl Stork

There was no dramatic outcome to the meeting. We were clear that (1) we regard NSP as a system software platform (Paul coined the term 'underware'); (2) we have technical problems with major components of NSP; (3) we aren't going to make compatibility with NSP or preservation of Intel's development investments a priority for MS; and (4) the visibility and focus that Intel has put on NSP means that we have to communicate to OEMs and IHVs what we do support and what we don't. We were pretty frank.

Intel has heard our concerns on the individual NSP components over

many months, and we have had several calls and meetings since they announced it at WinHEC - I have been pretty clear with Rob Sullivan. I also emailed our slides down in advance - it seems that until they got our slides in writing they did not understand how strongly we object. In their slides they were asking us to accept significant NSP components. They now do clearly understand that we are not bought in and how we view NSP as a problem. Whittier stated that Intel's goal was (1) to grow the PC market; and (2) to let Intel advance hardware faster than Microsoft would. Whittier said that Intel will not use NSP to create proprietary IP - that it was a grow the market, freely available to everyone. Kinnie frankly admits that NSP is a system software platform that they want people to write to, and that lets them put in new function without dependency on us.

Kinnie presented a long history of a vision that he had in 1991 for a 5-year plan for the PC platform - basically to media enable the PC, with work on audio, video, high speed bus, comm, ease of use, manageability, etc. - and how with NSP he will deliver 100% on his vision in 1996. A lot of pride tied up in this. He presented it to us in 1991 and asked us to work on it with him, but we only did bits and pieces. There was a lot of doubt at MS and at Intel on his plan, and he is ready to prove to the world that he was right and delivered. We are the last obstacle. Kinnie got kind of emotional. He also had a list of meetings and actions with us which were intended to prove that Intel had disclosed us on everything, and that Intel had done the bulk of the work and MS had underdelivered. He'd also tried to work with us in a variety of areas and we kept changing direction. He cites areas like DMTF, audio architecture where we told him to write COM drivers and use IMPMGR, etc. He complained bitterly about how we had not let them know about Reality Labs, what were doing in Direct Draw and Direct Sound, hadn't involved them in evolving DCI, etc. His list was very one-sided and not a balanced representation of the interactions or each side's contribution - but it is almost certainly communicated inside Intel as their account of working with Microsoft.

It is definitely true that in some areas we either did not have our act together or changed direction over time. But this is a normal part of our development process, and just because Intel decides that they will develop something in a given technology area is not going to freeze us out from doing the same. However, they are convinced that when Intel tells us what we they are doing, then we automatically launch a competing initiative in the same area. This is one of the reasons used internally at Intel to delay coming to us.

Kinnie loves VxDs - they allow him to control the machine and add function. We told him we hate VxDs written by third parties. Quality isn't there, they interfere, etc. Most people should be writing miniports, and MS's goal is create good miniport driver architectures. Kinnie got emotional here too saying that we don't always expose all the function in the hardware, and that we don't know everything about supporting hardware. Support for DSVD modems was cited as an example. We told them that the way to get support for new hardware is to work with us early and have us define a new driver architecture which we can both support. (Their belief that we automatically launch a counter-effort inhibits this - and to this day, despite asking them for 9 months now they have not presented us with a Memphis wish list).

I am not going to go into all the details of the discussions - I think this gives you a flavor. The bottom line is that Intel wants to enable new hardware function in our OSs and to set 'underware' system software standards, without being dependent on MS's inclination or execution. MS is going to create, evangelize and support only those APIs and DDIs that are part of our platform.

I don't think we got explicit enough on the nub of the problem - Intel decides they want new function. The winning path is to work with us, convince us it is important and to resource it, figure out who writes specs, who implements, what an acceptable time schedule is, etc. Sometimes Intel would have to accept the outcome that the time isn't right for us. The losing paths include: finding we aren't

doing anything and doing it themselves; not talking to us and doing it themselves; telling us when they most of the way through; etc. Inevitably we have either already got our own efforts underway or they haven't considered our real needs.

Kinnie thinks developing platform software is part of Intel's birthright. The first bullet on his conclusion slide read "MS acknowledges/accepts Intel's leadership role in defining PC platform standards and developing platform software".

The main offer that we made to them was to work together on defining what hardware support and OS services they would like to see in the Memphis timeframe. Their response to that was essentially that they would only do that if we agree to work to support most or all of the NSP software components - that they would agree to work with us technically on the NSP components, modifying them to meet our technical concerns, provided that we would preserve the bulk of their investment and schedule. They concretely asked for NSP (SPOX), Native Audio, DCI/Indeo, DMI, 3DR, and Instant On. And that we agree to an open process.

We did not draw any conclusions. We said that we would get back to them on which NSP components we would be willing to consider evolving and supporting. They are going to find that it is a short list. I will put together a proposed letter to them for your review.

We should go ahead with our IPC plans as set - meetings with OEMs, SDR, etc. The likelihood is that we will need to communicate our opposition broadly to the industry.