

From Valene See
Sent Thursday, December 05, 1996 8 13 AM
To Bill Veghte, David Williams (POSD), Rob Short, Chuck Lenzmeier
Cc Carl Stork, Dan Plastina
Subject RE Intel follow-up

ok, no problem please let us know what comes of the talks with Lanworks next week, but this set of issues will be enough to get us going today thanks again

From Chuck Lenzmeier
Sent Thursday, December 05, 1996 8 10 AM
To Valene See, Bill Veghte, David Williams (POSD), Rob Short
Cc Carl Stork, Dan Plastina
Subject RE Intel follow-up

We don't have anything concrete yet We're going to be talking to Lanworks about it next week At a high level, it's just an API to receive a file into some memory location, and another to send a file from some memory location A number of details need to be work out, especially given that we're talking about doing this in the absence of a real operating system We need to define the environment that will exist when the loader calls the ROM (e.g., we're in protect mode but we haven't messed around with anything that the ROM set up before it transferred control to the boot image), what the ROM can do to the environment while it's performing the action (e.g., it can switch to real mode), what the environment must be on return (same as on entry), and where the memory for the send/receive can be (hopefully we're not limited to low memory)

- chuck

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From Valene See
Sent Thursday, December 05, 1996 8 03 AM
To Bill Veghte, David Williams (POSD), Rob Short, Chuck Lenzmeier
Cc Carl Stork, Dan Plastina
Subject RE Intel follow-up

excellent definition of the problem, and what we want to solve now for the big question, do we have any internal work done yet on the definition of, or at least preferences for, the ROM get/send interface? (it's kind of a chicken and an egg problem, but again, it's always best to be first on the table with this kind of stuff if we don't dive right in with something, Intel will undoubtedly be happy to dictate terms to us .-))

(thanks for the input, chuck!)

From Chuck Lenzmeier
Sent Thursday, December 05, 1996 7 45 AM
To Valene See, Bill Veghte, David Williams (POSD), Rob Short
Cc Carl Stork, Dan Plastina
Subject RE Intel follow-up

For remote boot, we need to define two interfaces The first is between the NetPC and the boot server This should be DHCP (to get an IP address for the NetPC and to get the IP address of a boot server) and TFTP (to receive/send files from/to the boot server) These are standard protocols that are already used in various flavors of remote boot

The second interface is between the ROM and OS loader Boot ROMs that exist today simply load a boot image from the server, transfer control to that boot image, then go away This means that the boot image has to include code that can drive the net card (i.e., an NDIS driver, a transport, a redir, and everything needed to support them) This in turn means that some mechanism at the boot server needs to know what kind of net card is in the NetPC so that the correct driver can be sent What we want to do instead is define an interface between the ROM and the boot image that allows the OS loader to retrieve additional files from the boot server So the ROM would load the OS loader, then the OS loader would use the ROM interface to get ntoskrnl.exe, hal.dll, the correct NDIS driver, tcpip.sys, etc This means that the OS loader can detect the net card at run time, so the administrator of the boot server doesn't have to do any special setup based on what net card happens to be in the NetPC

We need to define the ROM get/send interface in a way that doesn't lock us into any one ROM vendor

Note the assumption here that the OS loader can detect the net card type at run time If the net card is PCI-based, this shouldn't be a problem Then it's just a matter of mapping the PCI ID to the appropriate NDIS driver If need be, we could do this mapping on the server side

- chuck

EXH. 2 DATE 07/11/02
 WITNESS Short
 SUSAN ZIELKE

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

From Valene See
Sent Thursday, December 05, 1996 7:14 AM
To Bill Veghte, David Williams (POSD), Rob Short
Cc Carl Stork, Dan Plastina, Chuck Lenzmeier
Subject RE: Intel follow-up

do you have a list of issues on this topic? we have a conference call with them (Intel) re NetPC today at 9, and pending your response we can bring them up or try to stave it off a little, but the latter isn't really a good choice - we're running out of time, as everyone is painfully aware

From Rob Short
Sent Wednesday, December 04, 1996 5:14 PM
To Bill Veghte, David Williams (POSD), Valene See
Cc Carl Stork, Dan Plastina, Chuck Lenzmeier
Subject RE: Intel follow-up

yup, it would be crazy to Intel define this

the only really urgent issue I can think of is defining how it boots, if we let Intel do this in a proprietary way we're screwed

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

From Bill Veghte
Sent Wednesday, December 04, 1996 11:36 AM
To David Williams (POSD), Valene See
Cc Carl Stork, Rob Short, Dan Plastina
Subject FW: Intel follow-up

Note the flag below on NetPC - we need to get cranking on this. I know it is difficult to do a spec until the sw work is crisply defined but having Intel draft this spec and take it to the industry will cause us more headaches in the long run if we don't get out in front

Thanks!

From Paul Mantz
Sent Wednesday, December 04, 1996 4:36 AM
To Jim Allchin (Exchange), Moshe Dunie
Cc Marshall Brumer
Subject Intel follow-up

I spoke to Pat Gelsinger a week ago Friday. Pat has moved to be two-in-box with Aymar, running Intel's x86 chip business, and has been designated as our contact point on NetPC and PC98.

On PC98 - they want to follow-up along the lines of the proposal that we made to them to work jointly on pC-98. They have a guy (Russell Barker? - Marshall knows) who is going to be their "owner" on this. We need to confirm that Moshe will be our owner on this. Remember that the "owners" are meant to be the decision makers on this (and not have everything escalated). Pat wanted to have a "kick off review" with me on this - I pushed back on this (the owners should do it). At any rate, we need to get back to them on this. They would like to put draft spec out by WinHec. I know our guys want to make sure that we also involve Cpq and HP as part of a kitchen-cabinet, so we need to be proactive.

On NetPC - Pat thinks that we are being slow to follow-up and get spec's out, and he is telling his guys to go ahead and start drafting. They want to have a review for the industry in January. We need to engage with them, and get ahead of them, and get OEMs involved. I think we should also get a few large account customers involved in order to get some reality in discussions and (eg) get focus off \$743 price point. I guess the PC'98 guy is also their NetPC guy.

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