

Am 22/23. November 1994 wurde durch einen Bericht des globalen Fernsehsenders CNN-International einem breiten Publikum bekannt, daß der Intel Pentium-Chip einen eingebauten Fehler aufweist.

**Alle Chips, die seit Mai 1993 ausgeliefert und u. a. in Pentium-PCs eingebaut worden sind, haben einen Divisions-Fehler (bug, flaw).**

Und der Skandal war da, als Intel nun nicht alle defekten Pentium-Chips ersetzen wollte. In Erklärungen hat Intel zwar den Fehler zugegeben, ihn aber verniedlicht. Intel wußte selbst von dem Chip-Defekt bereits seit dem Juni 1994, hat aber

die Kunden – auch die PC-Hersteller (!) – erst Ende November 1994, als es nicht mehr anders ging, über die Auswirkungen des Fehlers, und dann auch noch völlig falsch informiert. Weitere Informationen zum Pentium-Skandal findet man in den wdv-notes Nr. 307, 327–331 und 334.

Angesichts des unglaublichen Verhaltens der Firma Intel Corp., Santa Clara (USA) hat sich die Internet-Gemeinde nun entschlossen, zum ersten Mal das Mittel einer weltweiten elektronischen Petition einzusetzen, um so den Intel-Konzern doch noch zu einem kundenfreundlicheren Geschäftsgebahren zu bewegen.

Im folgenden wird diese Petition dokumentiert, die seit dem 5. Dezember 1994 im UseNet öffentlich diskutiert (sie war damit auch Intel bekannt!) und von Jon Noring abschliessend formuliert wurde.

Diese Petition kann nur elektronisch unterschrieben werden (s. Kasten). Teilnehmen können nur die, welche über eine gültige E-Mail Adresse verfügen, die vom Internet aus erreichbar ist. Das ist für die Überprüfung per Bestätigungsmail notwendig. Es werden ausschließlich E-Mails gewertet (keine Briefe). Um die Petition zu unterstützen, muß man nicht unbedingt Besitzer eines Pentium-Computers sein.

## Petition to Intel on the Pentium Design Flaw

Date: Wed, 14 Dec 1994 18:51:14 -0800 — From: noring@netcom.com (Jon Noring)

Following this short introductory section is the petition statement to Intel regarding the serious FDIV design flaw in their Pentium processors.

I encourage you to read the petition statement carefully, and if you agree with all three terms (given near the end of the statement), to then "sign" it via Internet e-mail using the instructions which follow the statement. Do follow exactly the directions on how to "sign"; they are not difficult.

Note that only those with valid Internet-accessible e-mail addresses can sign this petition. Signatures submitted any way other than via Internet e-mail will NOT be accepted. Many BBS and nearly all on-line services, such as CompuServe, do have Internet e-mail access of some kind. If you are not sure, or don't know how, ask your sysadmin/sysop for assistance.

Please do upload this petition statement as soon as possible to any BBS and on-line service in your area. If you have access to one of the major national on-line services such as CompuServe, Prodigy, AOL, etc., do try to upload it there. We are trying to get at least 5000 signatures. Even more signatures are entirely possible if we each put in a little effort to inform others, such as friends and coworkers, about the petition.

I plan to submit the signatures to Intel and to the news media by January 15, 1995. However, I will still accept signatures as late as January 30, 1995.

Thank you for your signature! And let's get this petition drive going! We only have four short weeks, and it's the Holiday Season to boot.

Jon Noring

Date: December 14, 1994  
Subject: Petition to Intel on the Pentium Design Flaw

*Dear Intel:*

*We, the undersigned, are very concerned about your handling of the floating point divide (FDIV) design flaw found in all of your Pentium processors manufactured until very recently. We do acknowledge that perfection is hard to achieve in any product. However, there are certain types of imperfections that are serious enough to warrant special attention and treatment. This is clearly one of them.*

*Your actions to downplay the FDIV design flaw have only created confusion and hostility among your loyal customers. In addition, the fact that you knew about the design flaw from July, but did nothing to warn Pentium users about it, and even continued to ship Pentium processors with the FDIV design flaw to resellers until very recently (and probably still are), only adds fuel to the hostility felt by Pentium owners and would-be owners. We know it is not your intent to alienate your customers, but that is effectively what you have done by your mishandling of the situation up to the present. We urge you to change course immediately.*

*You are right in saying that a large number of Pentium users will not be adversely affected by the FDIV design flaw since they are not using their Pentiums \*now\* for intensive floating point calculations. However, a significant and also large number of Pentium users, including scientists, engineers, designers, financial professionals, students, mathematicians and statisticians, and ordinary spreadsheet users, to name just a few of the affected groups of Pentium users, could encounter this error, with many possible negative consequences. Engineers typically do design calculations where an error could seriously affect public safety; financial analysts dealing with large sums of money where an error in the 4th significant figure (as the design flaw is sometimes capable of producing) can result in millions of dollars of losses. And do not forget that many of your customers bought a Pentium for what it potentially could do, not just to run applications they are currently using.*

*Your claims that it will occur so rarely (e.g., once every 27,000 years for the typical user) as to be inconsequential are totally unfounded, as many recent posts by competent scientists and mathematicians to the Usenet/Internet newsgroup 'comp.sys.intel' have demonstrated be-*

### Unterschreiben der Petition

Das elektronische Unterschreiben dieser Petition ist sehr einfach. Dazu schickt man **bis zum 15. Januar 1995** eine E-Mail an **intel-petition@netcom.com**. Im Subject (Betreff) *muß* „Intel Petition Signature“ angegeben werden.

Als Unterschrift reicht eine Textzeile mit folgendem Inhalt aus (der Petitionstext selbst braucht *nicht* zugefügt zu werden):

**SIGNED Die\_eigene\_Email\_Adresse Voller\_Name Flag**

Das Wort „SIGNED“ *muß* unbedingt in Großbuchstaben geschrieben werden. Im Feld „Flag“ kann – *muß* aber nicht – eine Angabe dazu gemacht werden, ob man selbst einen Pentium-Computer benutzt *oder* besitzt (1 = Ja, 0 = Nein). Ein Beispiel für eine gültige Unterschrift:

**SIGNED kuebel@vaxus.grumed.fu-berlin.de Karl Uebel 1**

Weitere Informationen findet man am Schluß des Petitionstextes (siehe Seite 2).

yond a doubt. In addition, IBM, a major seller of Pentium systems, recently issued a press release also doubting your claims, stating that even the ordinary spreadsheet user could encounter this FDIV error every few days — for a large company with many spreadsheet users, this could lead to several errors per day, some of which could prove costly. Many scientists and engineers have reported that they had to throw away months of costly calculations since they are not sure the answers are correct, or that others will call into question the results during the peer review/publication process. Even several Ph.D. students have reported on Usenet that they have to rerun months of calculations, delaying the completion of their thesis by several months or more.

In addition, your implied argument that it wasn't discovered for a long time as being proof that it is not serious, is also incorrect. As an arithmetic flaw, which does not give any warning, it is especially insidious because when it does occur, the user is usually unaware of it (that's why it took so long to be discovered \*and\* publicized). Only by rerunning the code on a machine with a proven reliable FPU can the error be seen. Most of these codes take so long to run, even on the fast Pentium, that rerunning the codes for verification is very costly and thus are usually not undertaken. Upon hearing of the FDIV design, many Pentium users have rerun FPU intensive calculations on FPU reliable processors and some have reported finding serious discrepancies that went previously unnoticed.

Your present policy of downplaying the seriousness of the FDIV design flaw, by using incorrect statistical analysis (your so-called "White Paper"), and by your massive PR media blitz which tends to only give your side of the story (you call it a "subtle flaw" with shades of double-speak in George Orwell's "1984"), is especially serious and adversely affects your credibility. Your offer to replace the Pentium processor for those who, in your opinion, could be affected by the flaw, is tainted by your fairly strict and seemingly arbitrary qualification criteria, as well as your lackluster effort (effectively none) in trying to inform Pentium owners about the FDIV design flaw. Your so-called "Six Point Plan" to handle the situation is clearly motivated by damage control rather than by trying to satisfy your customers. There is a BIG difference.

In summary, your mishandling of the entire situation only serves to alienate both your customers and stockholders, and may even make you legally liable for endangering the public safety and for economic losses of various sorts. We are certain you and your stockholders don't want this.

We, the undersigned, therefore make the following demands, which we hope you will consider as friendly recommendations from your loyal customers:

**1)** That you will offer a free replacement Pentium processor (which has been updated so as to fix the FDIV design flaw without slowing down FPU performance) to any owner of a FDIV-flawed Pentium processor who requests a replacement, with \*no questions asked\*, and with \*no exceptions\*. In addition, you will make it easy, logistically, for the requester to obtain the replacement processor, and you will pay all reasonable costs for effecting the replacement.

[Ed. Note (2. Ed. – 12/21/94): This demand is close to being fulfilled by Intel's policy change on Dec 20, 1994].

**2)** That you will make a \*good faith\* effort to inform all Pentium owners of your replacement offer in demand #1 above, for example, by half to full-page advertising in major newspapers, magazines, trade and scientific journals, notices to Pentium system resellers, universities, research laboratories, etc. All notices and advertisements must include a clearly objective and concise assessment, written by an expert in the field not associated \*in any way\* with Intel,

of the FDIV design flaw and in what type of applications it could cause problems. The assessment must reference, \*without comment\*, information recently released by IBM concerning the potential frequency of FDIV errors to spreadsheet users. The notices and advertisements must also include the information from demand #3 below. The campaign to inform Pentium owners must begin within six weeks from the acceptance of our demands.

[Ed. Note (3. Ed. – 1/2/95): Demands 1 and 2 have apparently been fulfilled, but time only will tell us if the spirit of these demands have been fulfilled].

**3)** That you will publicly release information on how to determine, by the serial number printed on the processor, a FDIV design flawed Pentium from one that has this design flaw fixed. This information must be posted to the Internet as well as provided to your resellers and to the editors of the major PC-related consumer magazines and PC-industry newsletters.

[Ed. Note (3. Ed. – 1/2/95): This important demand has not been fulfilled yet].

We, the undersigned, believe the above demands are not harsh, and will help you to gain credibility and confidence among all computer users. In fact, this may actually result in a marketing victory for you, as people speak enthusiastically and do business with companies who follow the principle that "the customer is always right." They will see you as a company who cares for the little guy, with the result that your long-term success is assured. Without such consumer confidence, no business has ever been able to thrive in the long-term. We ask that you choose to put your customers first, and the long-term profits will surely follow. We are certain that your stockholders would also wholeheartedly agree with this assessment.

Intel, do the right thing!

SIGNED ...

## INSTRUCTIONS FOR SIGNING THIS PETITION

It must first be noted that this is a petition, and not a vote. By "signing" it you agree with *all* the demands of the petition statement. If you do not agree with all the demands, then your only recourse is to not sign it.

In addition, all e-mail signatures will be gathered and will be submitted to Intel as well as to the news media, thus they will become "public". To sign this petition, send e-mail to the following Internet e-mail address:

=====  
intel-petition@netcom.com  
=====

In your e-mail message, include the following information:

- 1) For the Subject line use the phrase "Intel Petition Signature".
- 2) Anywhere in the body of the message, include the following line:

SIGNED <Internet e-mail address> <Your full name> <flag>

The word "SIGNED" should be in upper case. The field labeled "<flag>" is an *optional* entry indicating if you own or use a Pentium-based computer ('1' means you do, '0' means you don't). You need not include the '<' and '>' characters as shown above.

You can include special comments on separate lines if you like, but these comments may never be sent to Intel and/or to the news media. Please don't include the petition statement itself in your e-mail signature reply. If you don't provide both your e-mail address and *full name* in the signature line as outlined above, your signature will be rejected.

Within a few days of receipt of a signature meeting the above requirements, an automated acknowledgment will be e-mailed to you for e-mail address verification purposes.

Thank you for signing this petition!

Jon Noring